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Major Eric D. Hresko

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14. ABSTRACT

In his recent article entitled *USJFCOM Commander's Guidance for Effects-based Operations*, Gen James Mattis states, "Effective immediately, USJFCOM will no longer use, sponsor, or export the terms and concepts related to EBO, ONA and SoSA in our training, doctrine development, and support of JPME". This pronouncement has supposedly halted the use of effects-based operations (EBO) within the Department of Defense (DOD), despite the fact that EBO has had success in past operations. At the same time, other nations such as China are rapidly expanding their military capability and are developing new anti-access weapons and technologies which could potentially deny us the ability to project power around the world.

This paper examines the nature of a maritime anti-access environment, using China as an example, and demonstrates how EBO can aid the Joint Force Commander (JFC) in planning and executing operations in such a scenario by examining several successful examples of EBO employment in the past. It briefly discusses the nature of both EBO and anti-access strategies, and follows up with an analysis of how EBO could make a difference in planning and executing operations in an anti-access environment.

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Effects-based Operations – A Valid Concept for Operations in an Anti-Access Environment

by

Eric D. Hresko

Maj, USAF

A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

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4 May 2008

Table of Contents

Abstract

In his recent article entitled *USJFCOM Commander's Guidance for Effects-based Operations*, Gen James Mattis states, "Effective immediately, USJFCOM will no longer use, sponsor, or export the terms and concepts related to EBO, ONA and SoSA in our training, doctrine development, and support of JPME". This pronouncement has supposedly halted the use of effects-based operations (EBO) within the Department of Defense (DOD), despite the fact that EBO has had success in past operations. At the same time, other nations such as China are rapidly expanding their military capability and are developing new anti-access weapons and technologies which could potentially deny us the ability to project power around the world.

This paper examines the nature of a maritime anti-access environment, using China as an example, and demonstrates how EBO can aid the Joint Force Commander (JFC) in planning and executing operations in such a scenario by examining several successful examples of EBO employment in the past. It briefly discusses the nature of both EBO and anti-access strategies, and follows up with an analysis of how EBO could make a difference in planning and executing operations in an anti-access environment.

INTRODUCTION

An "effect" is the physical or behavioral state of a system that results from an action, a set of actions, or another effect[1]
-JP 3-0

Since the end of the Cold War, the United States has not been seriously challenged by a militarily powerful enemy. While our conflicts have by no means been easy or simple, they have not been against a technologically advanced adversary with the capability to bring a credible military force to bear and challenge us on the battlefield. However, this may change in the near future if predictions are accurate.[2] The United States may find itself engaged in conflict with a foe that has developed a robust anti-access (also known as access denial) strategy that would seek to prevent our ability to project power and to operate relatively unhindered as we have routinely done since World War II. How would the Joint Force Commander (JFC) determine courses of action (COA) that would have the greatest likelihood of achieving our strategic and operational goals while at the same time using an economy of force? How would the JFC plan for operations in such an environment? The answer to these two questions is effects-based operations (EBO), a concept that helps commanders and planners think in terms of creating effects on the enemy, rather than simply focusing on destroying the enemy. EBO can be an extremely useful tool for the commander when planning and operating in an anti-access environment.

While EBO is not a new concept, it has only more recently come to the forefront following Operation Desert Storm/Desert Shield,[3] and has been embroiled in controversy and

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[1] Chairman, U.S. Joint Chiefs of Staff, *Joint Operations*, Joint Publication (JP) 3-0 (Washington, DC: CJCS, 13 February 2008), IV-9
[2] Office of the Secretary of Defense, *Annual Report to Congress: Military Power of the Peoples Republic of China (*Washingon, DC: U.S. Department of Defense, 2009), VII
[3] Paul K. Davis, *Effects-Based Operations: A Grand Challenge for the Analytical Communit, (*Santa Monica, CA: The RAND Corporation, 2001), 2

generated a considerable amount of angst within the defense community in recent years. While there is a considerable body of literature that suggests that EBO is fundamentally flawed and difficult (at best) to employ correctly, experience has shown that EBO has the potential to suggest COAs that can achieve the desired effects with an economical use of force.[4] In addition, EBO often seeks to avoid the relative simplicity of attrition warfare, and instead seeks to find solutions that either coerce the enemy to stop fighting, or take away his capability to fight. If the United States is to ever enter into conflict with a near-peer competitor who could deny us access to the theater, then EBO could be the solution for planning operations that yields a relatively quick victory with a minimal loss of life on both sides. While the actual operational strategies needed to operate in this environment are beyond the scope of this paper, this paper will show why EBO can help the JFC plan and execute a campaign that would seek to negate any anti-access strategy wherever it may appear, using China as a relevant example.

ANTI-ACCESS/ACCESS DENIAL

In order to fully appreciate the benefits EBO can provide to operations in an anti-access environment, the term "anti-access" first needs to be defined. In the monograph *Entering the Dragon's Lair: The Implications of Chinese Antiaccess Strategies*, Roger Cliff of the RAND Corporation defines anti-access as "any action by an opponent that has the effect of slowing the deployment of friendly forces into a theater, preventing them from operating from certain locations within that theater, or causing them to operate from distances farther from the locus of conflict than they would normally prefer."[5] At its heart, an anti-access strategy is one

[4] David A. Deptula, *Effects-Based Operations: Change in the Nature of Warfare* (Arlington, VA: Aerospace Education Foundation, 2001), 9

[5] Roger Cliff et al., *Entering the Dragon's Lair: The Implications of Chinese Antiaccess Strategies* (Santa Monica, CA: The RAND Corporation, 2007), 20

which seeks to negate the advantages an adversary has and either prevent a confrontation outright or force the enemy to fight on your terms. For example, a robust, layered and redundant integrated air defense system (IADS) that would prevent most aircraft from penetrating a given airspace would be a textbook example of an anti-access strategy. An anti-access strategy does not need to be expensive or at the cutting edge of technology, however. For example, if a belligerent nation possesses a strong navy, laying minefields along key choke points in order to prevent that navy from approaching your coast would be an example of a low-tech anti-access strategy.

One modern example of a country which is rapidly developing an anti-access strategy against the United States is the Peoples Republic of China (PRC). The Office of the Secretary of Defense's (OSD) *Annual Report on Military Power of the People's Republic of China 2009* outlines how China is rapidly building their military capability with an eye toward anti-access.[6] Specifically, their efforts appear to be aimed at slowing our deployments to the Western Pacific, prevent operations in and around Taiwan, and forcing us to operate from much longer distances than we are normally used to.[7] If the United States were to ever engage China militarily in defense of Taiwan, China's anti-access strategy could hinder or severely impact our operations in the area. First, China's development of advanced submarines and anti-ship cruise missiles (ASCM) could make rapid deployment of maritime forces to the theater difficult and dangerous. Even aircraft carriers would be held at risk inside a carrier strike group (CSG) due to the threat of theater ballistic missiles (TBM) that are assessed to be capable of specifically targeting carriers from hundreds of miles away.[8] Second, any existing US bases in the area

[6] Office of the Secretary of Defense, *Annual Report to Congress: Military Power of the Peoples Republic of China*, VII
[7] Ibid.
[8] Ibid., 21

would be threatened due to China's buildup of long range air assets and TBMs.[9] Any reinforcements brought in from out of theater would need to be based much further away due to this threat, thereby increasing the time and space considerations for the JFC. Any land or sea based airpower which did get close enough to operate would encounter a very robust and layered IADS, to include both land-based defenses and modern fighters.[10] While with enough time, effort and warning, the United States could presumably bring sufficient force to come to the aid of Taiwan, the cost in both time and lives would be enormous. However, if there were little to no warning of a Chinese invasion of Taiwan, the United States might not be able to forcibly remove a Chinese invasion force from the island at all.

WHAT IS EBO?

In his 2001 essay entitled *Effects-Based Operations: Change in the Nature of War*, Brig Gen David Deptula[11] characterized EBO as "force used to effectively control a system— to achieve specific effects rather than destroy it—[which] may lead to the same strategically relevant result, yet with significantly less force."[12] Another definition, this time by Paul Davis of the RAND Corporation, states that "effects-based operations are operations conceived and planned in a systems framework that considers the full range of direct, indirect, and cascading effects, which may—with different degrees of probability—be achieved by the application of military, diplomatic, psychological, and economic instruments."[13] In either case, both authors agree that EBO is a conceptual framework which seeks to use power to achieve an effect on or against the enemy. While in many cases

[9] Ibid., 29
[10] Ibid., 22
[11] During Operation Desert Shield/Desert Storm, Lt. Col. Deptula was the principal offensive air campaign planner for the Joint Force Air Component Commander's director of campaign plans. Lt. Gen. David A. Deptula currently is Deputy Chief of Staff for Intelligence, Surveillance and Reconnaissance, Headquarters U.S. Air Force.
[12] David A. Deptula, *Effects-Based Operations: Change in the Nature of Warfare*, 6
[13] Paul K. Davis, *Effects-Based Operations: A Grand Challenge for the Analytical Community*, 7

destroying all of the enemy's forces would likely achieve the desired outcome, a more economical use of force can be achieved if key systems are identified, that if destroyed or isolated, will have the same effect as if those systems were destroyed. As an example, if the desired effect is to stop a particular car along the highway, you can destroy the car, destroy the engine, or kill the driver. Destroying the engine might also achieve the desired effect, but depending on the weapon used, the effect might not be immediate, and the car might continue for some time even if the engine were destroyed simply due to inertia. Killing the driver might also achieve the desired effect, but it may require more precision than the other two solutions, and you may have to get closer than you would like in order to be able to hit the driver. Finally, closing down the gas stations along the highway might eventually stop the car, leaving both the driver and car intact, but the time it takes for the car to run out of gas might be unacceptable. In any case, the most important part is the identification of the desired effect, and the analysis of likely outcomes of the various courses of action that were subsequently identified.

CENTERS OF GRAVITY AND EBO

In their series of articles discussing centers of gravity (COG) and critical vulnerabilities, Dr. Joe Strange and Colonel Richard Iron argue that COGs are "physical or moral entities that are the primary components of physical or moral strength, power and resistance", and that the three principal ways to defeat the COG are to make COG irrelevant, strip the COG of its support, or to defeat the COG by exploiting a systemic weakness.[14] If one accepts this idea, then it follows that in order to defeat an enemy, is not always necessary to attack their COG directly. Instead, Dr. Strange suggests that exploiting the COG's

[14] Joe Strange and Richard Iron, " Understanding Centers of Gravity and Critical Vulnerabilities Part 2: The CG-CC-CR-CV Construct", (1996), 6

vulnerabilities will have the same overall *effect* as attacking the COG itself and destroying it. EBO embraces this concept, and seeks to employ power to achieve the desired effects in a manner such that all efforts are employed in concert to achieve the commander's objectives.[15] If the destruction of the COG is the best way to achieve the desired effect, then this is acceptable. But the notion that the COG can be neutralized by less direct means has greater implications for operations in an anti-access environment, where the enemy COG may not be easily attacked, or where its attack may weaken friendly forces to the culminating point.

DESERT STORM

While not the first conflict to employ EBO, Operation Desert Storm stands out for several reasons. Arguably the most important reason is that the opening moves of the campaign were planned such that joint operational fires were (for the most part) not simply employed against the bulk of the front-line Iraqi fielded forces, but instead were employed against a variety of targets that would ultimately have much more far reaching effects than simply the destruction of the Iraqi armed forces. Brigadier General Deptula states in his article *Effects-Based Operations: Change in the Nature of Warfare,*

> The air campaign strategy capitalized on capabilities and highly adaptive attack plans designed to paralyze Saddam's control of forces, then went on to neutralize the enemy's capacity to fight, undermine its will to fight, reduce its military production base, and create the conditions to control its capacity to build weapons of mass destruction. This construct avoided Iraq's strengths on the ground—its vast defensive armies that had the potential to inflict high Coalition casualties.[16]

By employing EBO concepts against targets in a parallel manner in which a broad range of targets were struck at nearly the same time, the Coalition was able to rapidly isolate

[15] Robert B. Herndon et al., "Effects-Based Operations in Afghanistan: The CJTF-180 Method of Orchestrating Effects to Achieve Objectives", *Field Artillery*, Jan-Feb 2004, 26
[16] David A. Deptula, Effects-*Based Operations: Change in the Nature of Warfare*, 3

the Iraqi forces and render even those forces that were not struck incapable of fighting effectively or in a coordinated manner.[17] In effect, the air campaign was executed exactly as Dr. Strange would have recommended had his article been written just a few years earlier. While the Coalition did bring a massive air force to bear against Iraq, a mere 2% of the total air forces (in the form of F-117 stealth fighters) struck 43% of the total targets during the air campaign.[18] This example illustrates two lessons. First, it is a positive example where an enemy COG is neutralized not by directly attacking it with massed forces, but instead by attacking its support structure and rendering it incapable of organized resistance. Secondly, precision fires (in this case in the form of airpower and cruise missile strikes) can have a stunning effect when deliberately and properly targeted. The same strikes targeted against Iraq's fielded forces would not have had nearly the same effect as it did when targeted against their support infrastructure.

OPERATION ENDURING FREEDOM (OEF)

Whereas EBO in Operation Desert Storm was primarily used to employ air power in order to neutralize a fielded combat force, more recent examples of EBO illustrate how both lethal and non-lethal forces can be employed together in a coordinated manner. In the January-February 2004 issue of *Field Artillery*, Maj Robert Herndon writes how Combined Joint Task Force 180 (CJTF-180) used EBO not only in the application of lethal force, but also in coordinating non-lethal and even non-military assets to achieve the CJTF commander's intent.[19] Some of the assets that Major Herndon describes in his article include fixed-wing aircraft and artillery (lethal), civil-military operations and public affairs (non-

[17] Ibid., 5
[18] Ibid., 10
[19] Robert B. Herndon et al., "Effects-Based Operations in Afghanistan: The CJTF-180 Method of Orchestrating Effects to Achieve Objectives.", 26

lethal), and US Government agencies and Non-Governmental organizations (non-military).[20] He also describes how the planning and employment of the various assets is centrally coordinated and operated much like a more conventional targeting board would operate.[21] CJTF-180 employed a Joint Effects Coordination Board (JECB) which included members from all elements of CJTF-180, including air, ground, information operations (IO), intelligence, legal and psychological operations (PSYOPS).[22] The JECB was responsible for coordinating resources against targets that were identified by the Joint Effects Working Group (JEWG), which had a mission similar to a targeting cell.[23] EBO was made an integral part of the CTF-180 planning and execution cycle, integrated from start to finish. The JECB was chaired by the CJTF-180 Chief of Staff,[24] giving both the input and output from the board visibility at the highest level within the task force. Once the desired effect was identified and the resources were allocated against the target, the results were analyzed in a manner similar to more traditional battle damage assessment (BDA) and the cycle began again. The CJTF-180 example illustrates an employment of EBO where it was integrated at the task force level with command oversight at the highest levels. In addition, CJTF-180 was able take EBO past the level of simply selecting targets, and was able to integrate both lethal and non-lethal means to achieve the desired ends.

THE UTILITY OF EBO

Based on the two previous examples, it's apparent that EBO has tremendous potential to be effective across the entire range of military operations (ROMO). On one hand, the Desert Storm example illustrates how EBO was used to develop and execute a plan that

[20] Ibid., 28
[21] Ibid., 27
[22] Ibid., 28
[23] Ibid., 28
[24] Ibid., 27

predominantly used airpower against a relatively well defended and well equipped adversary to neutralize their combat capability without relying on a long and costly campaign based on attrition warfare. The OEF example, on the other hand, demonstrated a more recent example of the application of EBO in a campaign that was not dominated by airpower. Instead it showed how EBO can be integrated at the highest level within an operation and how it can seamlessly coordinate both lethal and non-lethal forces. This is precisely why EBO has such potential for use in an anti-access environment. If applied properly, EBO can help the JFC plan and execute an operation that mitigates the time/space/force tradeoffs that might otherwise hamper operations in such a theater.

While many mischaracterize EBO as seeking to avoid direct conflict or warfare by attrition and instead favors Sun Tsz's notion of winning without fighting,[25] Paul Davis points out that this is not necessarily the case. Instead, he states that "EBO should be considered an expansion of, not a substitute for, operations that involve attrition, destruction, and occupation. Mindless attrition, destruction, and occupation are to be avoided, but even with the most sophisticated versions of effects based planning, and even with the advent of precision weapons and cyberwar, some traditional aspects of war will still be necessary."[26] While not trying to avoid direct military confrontation, when the JFC determines that a target or force needs to be attacked in some manner with military force, EBO would seek to use the minimum force required to complete the mission.[27] This economy of force allows the JFC to have a smaller footprint in theater with his or her forces, which in turn reduces the logistical requirements and inter-theater transport, among other things. Economy of force may be

[25] Sun Tzu, *The Illustrated Art of War*, ed. and trans.by Samuel B. Griffith (Oxford, Oxford University Press, 2005), 115
[26] Paul K. Davis, *Effects-Based Operations: A Grand Challenge for the Analytical Community*, 15
[27] David A. Deptula, Effects-*Based Operations: Change in the Nature of Warfare*, 9

achieved through technological superiority, as in the case of Operation Desert Storm. Given precision fires and stealth technology, the desired first order effects may be achieved by striking key targets in well defended areas, such as threat radars and airfields. Alternately, a smaller maneuver force may be used to strike less well defended targets that have the desired second or third order effects, such as power plants, fiber optic switching stations or oil pipelines. In either case, EBO would suggest COAs that require less force than a more traditional "rolling back" of the defenses.[28]

THE FACTORS OF TIME AND SPACE

One of the greatest challenges that the JFC can face in an anti-access environment is operating from long distances from an exterior position. If the JFC is forced to operate along long exterior lines, then the factors of space and time rapidly become critical. Space becomes critical because lines of communication and operations are lengthened and localized sea and air control becomes more problematic. Time becomes critical because friendly reaction to changes in the conflict takes longer, combat force and logistical movement takes longer and in general the campaign becomes more difficult to coordinate and synchronize. This is compounded even more when the theater is predominantly a maritime one, where there are generally no intermediate basing options available at all.

In the example of a belligerent China, the long distance from friendly basing to the joint operating area (JOA) would present a tremendous burden on the JFC from both an operational and logistical standpoint. If one were to presume that in a worst-case scenario, China would not hesitate to use its TBMs to strike US basing in Japan[29] in the event of a conflict, then the nearest US base that is currently out of Chinese conventional ballistic

[28] Ibid., 3
[29] Office of the Secretary of Defense, *Annual Report to Congress: Military Power of the Peoples Republic of China*, 29

missile range is Guam.[30] Given the fact that Taiwan is approximately 1500 nautical miles from Guam, one can begin to see the difficulties the JFC would face in employing an effective force to defend Taiwan. With these extreme distances, the JFC would be forced to employ a relatively small force limited to land based air power and sea based air power positioned outside Chinese TBM range. This would be further hampered by the requirement for tanker support on such long missions. By employing EBO in the design and execution of a long distance air and maritime campaign, the JFC could mitigate the risk to mission incurred by possessing a much smaller force than desired. By leveraging the capabilities of precision strikes and stealth, the JFC could achieve the same effects with a much smaller force, similar to the results seen in Operation Desert Storm.

AVOIDING ATTRITION WARFARE

In the Desert Storm example, the use of precision strikes and stealth was shown to be the key to designing a campaign which required less force than might otherwise be needed by the more conventional means at the time. However, simply throwing small numbers of precision strikes around from air and sea platforms is not enough. EBO would suggest that a numerically overwhelming force is not required, and it would also suggest the methods in which that smaller force could be employed effectively. Looking back on the Desert Storm example, the greatest effects were achieved by selectively targeting a wide range of targets with precision strikes in order to neutralize the Iraqi capability to defend themselves and attack coalition forces. If one accepts Dr. Strange's notion of a COG and its vulnerabilities, then in a China-Taiwan scenario the anti-access measures themselves could be considered a COG at the operational level. Clearly, a deeply layered IADS and a carrier-killing TBM are

[30] The PRC do possess ballistic missiles that can strike Guam, but they have nuclear, not conventional warheads

dynamic, positive agents that are powerful and strike heavy, effective blows,[31] and hence would be considered a COG in this example. However, due to their very nature, most of China's anti-access measures are not readily attacked, at least not directly. Most of China's offensive anti-access capabilities, such as their TBMs and modern fighters, are situated within or behind a robust IADS, so directly attacking them would be difficult.

If the JFC determines the anti-access measures to be one of the COGs that need to be destroyed in order to defend Taiwan from invasion, then the JFC would need to develop a strategy which would allow that destruction with the forces available. EBO could aid the JFC in developing and executing a strategy which would use the available forces, taking into account the time and space tradeoffs, and employ them in such a way as to neutralize the enemy's anti-access measures without reverting to a classic "slugfest" of massive strikes designed to wear down the enemy defenses at a high cost to both sides.

THE CASE AGAINST EBO

While EBO has been quite successful in both past and current conflicts, there is considerable opposition to EBO. The most visible (and perhaps the most influential) is Gen James Mattis, United States Joint Forces Command (USJFCOM) commander. In his recent article entitled *USJFCOM Commander's Guidance for Effects-based Operations*, General Mattis states, "Effective immediately, USJFCOM will no longer use, sponsor, or export the terms and concepts related to EBO, ONA and SoSA in our training, doctrine development, and support of JPME."[32] While USJFCOM is not solely responsible for the development of joint doctrine, USJFCOM does work closely with the Joint Staff in doctrine develop and

[31] Joe Strange and Richard Iron, "Understanding Centers of Gravity and Critical Vulnerabilities Part 1: What Clausewitz (Really) Meant by Center of Gravity." (1996), 15

[32] James N. Mattis, "USJFCOM Commander's Guidance for Effects-based Operations" *Joint Force Quarterly*, 4th Quarter 2008, 105-108

assessment,[33] so USJFCOM is in a position to influence the use of EBO within the Department of Defense (DOD). General Mattis goes on to list nine reasons for his decision to discontinue the development of EBO within USJFCOM.

First, General Mattis' takes exception to the notion that that EBO can predict outcomes to very high level of certainty and has a complete understanding of the enemy on how the enemy will react.[34] He also objects to the "unattainable level of knowledge" EBO requires in making those predictions.[35] In essence, he believes that EBO promises to achieve results that are unrealistic. However, in a rebuttal article to General Mattis in *Parameters*, Col Tomislav Ruby[36] counters General Mattis on these points. He states that many of General Mattis' complaints are true for all planning methodologies.[37] Specifically, he makes a compelling argument that given the fact we can never fully predict or anticipate the reactions of the enemy, and that because we will never have one hundred percent knowledge of the enemy, on this point EBO is inherently no worse than any other methodology.[38] Paul Davis expounds on this in *Effects-based Operation: A Grand Challenge for the Analytical Community*, where he advocates, among other things, an analysis based on most-likely, best-case, and worst-case outcomes.[39] Nowhere is it stated that EBO will predict the future, but instead suggests that EBO can aid the JFC by providing several options and allowing the commander to make the final decision. Finally, JP 2-0 includes the same basic concepts when discussing the joint intelligence preparation of the operational environment (JIPOE)

[33] U.S. Joint Forces Command, "Joint Force Trainer – Doctrine", U.S Joint Forces Command, http://www.jfcom.mil/about/fact_doctrine.htm (accessed 1 May 09)
[34] James N. Mattis, "USJFCOM Commander's Guidance for Effects-based Operations," 106
[35] Ibid.
[36] Colonel Tomislav Z. Ruby is Chief of Doctrine for the Deputy Chief of Staff for Intelligence, Surveillance, and Reconnaissance, Headquarters US Air Force
[37] Tomislav Z. Ruby, "Effects-based Operations: More Important Than Ever," *Parameters*, Autumn 2008, 27
[38] Ibid., 27
[39] Paul K. Davis, *Effects-Based Operations: A Grand Challenge for the Analytical Community*, xiv

process. JP 2-0 advocates developing enemy COAs that are based on worst case and most likely scenarios.[40] EBO is just like any other planning concept in that it attempts to predict possible outcomes, but it does not pretend to be prophetic in nature.

The remainder of General Mattis' argument is simply unsubstantiated, according to Colonel Ruby.[41] For example, General Mattis' article would lead one to believe that EBO is merely a methodology with a checklist of steps when he states that EBO is overly prescriptive.[42] However, EBO is not a prescribed set of steps that one must follow in order to be successful. EBO is a conceptual approach to planning and conducting operations.[43] General Mattis also implies that EBO takes the commander out of the loop of the planning and execution cycle, with staffs waging the war.[44] Since EBO is not a prescriptive process that has been codified into a series of steps and instructions, any lack of leadership visibility in the process should be directed at the commander, not the concept. As Major Herndon said in his *Field Artillery* article, "The key to CJTF-180's successfully executing EBO was the *focus on effects* achieved by the process—not the process itself. At times, CJTF-180 planners got mired in the process and ignored the effects being generated, thus they failed to adapt to the ever-changing enemy and take advantage of the effects they could have created."[45] This real-world example shows an occasion where the process became more important than the results, but the planners were able to step back and re-orient themselves and focus on what mattered, which were the desired effects. If EBO were fundamentally a process rather than a

[40] Chairman, U.S. Joint Chiefs of Staff, *Joint Intelligence*, Joint Publication (JP) 2-0 (Washington, DC: CJCS, 22 June 2007), I-16
[41] Tomislav Z. Ruby, "Effects-based Operations: More Important Than Ever," *28*
[42] James N. Mattis, "USJFCOM Commander's Guidance for Effects-based Operations," 106
[43] Tomislav Z. Ruby, "Effects-based Operations: More Important Than Ever," 28
[44] James N. Mattis, "USJFCOM Commander's Guidance for Effects-based Operations," 106
[45] Robert B. Herndon et al., "Effects-Based Operations in Afghanistan: The CJTF-180 Method of Orchestrating Effects to Achieve Objectives.", 30

concept, this would not have been possible to do without radically changing the mechanics of the process.

In general, the arguments against EBO tend to focus on examples where EBO was perceived to be a contributor to an operational failure, such as the 2006 Hezbollah-Israeli War, where the nomenclature, process and lack of operational clarity ultimately aided in the Israeli defeat.[46] Unfortunately, EBO's detractors spend little time acknowledging the successes which EBO has produced, such as the examples previously illustrated. General Mattis and a considerable number of other well known authorities on operational art, such as Dr. Milan Vego and Lt Gen Paul Van Riper (Ret)[47] all share essentially the same views. In their opinion, some elements of EBO, such as nodal analysis, are useful in modern warfare.[48] They believe, however, that the underlying principles of EBO contradict the classical Clausewitzian concepts of operational art. For instance, they believe that EBO confuses the relationship between clearly defined ends and the use of available means to achieve those ends.[49] Furthermore, they argue that EBO has muddied the waters and has created confusion by introducing non-standard terminology, which in turn causes the defense community to become distracted and lose focus on the foundations of operational art.[50] The problem is that they appear to be unwilling to acknowledge that EBO has proved successful in the past. Dr. Vego concludes his article *Systems versus Classical Approach to Warfare* by stating that if any new military theory does not pass a reality check, then it needs to either be fixed or

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[46] Milan N. Vego, "A Case Against Systemic Operational Design." *Joint Force Quarterly*, 2nd Quarter 2009, 69

[47] Paul K.Van Riper, "EBO: There Was No Baby in the Bathwater," *Joint Force Quarterly*, 1st Quarter 2009, 82

[48] James N. Mattis, "USJFCOM Commander's Guidance for Effects-based Operations," 107

[49] Paul K.Van Riper, "EBO: There Was No Baby in the Bathwater," 85

[50] Milan N. Vego, "A Case Against Systemic Operational Design," 75

thrown out altogether.[51] Opponents of EBO should reconsider their opposition by not only looking at what has gone wrong with EBO, but give credit where credit is due and acknowledge that EBO has achieved great success in many conflicts in our recent past.

CONCLUSION

If the United States ever finds itself fighting an enemy that has developed a robust anti-access strategy that seeks to counter our ability to project, the JFC will certainly be in an unenviable position. On the one hand, the JFC will have to develop and execute a plan that takes into consideration considerable time and space limitations, especially if operations are in a maritime theater. Extreme distances, long transit times and limited basing will be just a few of the problems the JFC will face. On the other hand, the JFC will likely have a relatively small force to plan and conduct the campaign with, at least initially. Despite its recent criticism, EBO has a proven track record of successful employment across the ROMO and has great potential for use in situations such as these. EBO is a concept which can aid the JFC in developing and executing COAs that can effectively utilize all elements of power in a coordinated and synchronized manner. The misconceptions surrounding EBO stem from the incorrect belief that EBO is a process, rather than a concept. If problems exist with the way EBO is employed currently, then the problems should be corrected. EBO are simply too valuable to disregard.

[51] Milan N. Vego "Systems Versus Classical Approach to Warfare." *Joint Force Quarterly*, 1st Quarter 2009, 40-48.

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